

U.S. Serial No. 08/971,254

Reply to Office Communication dated: 03/10/03

Family Number: P1995J076-US2

REMARKS

The Examiner rejected claims 1,2,4,5, 8,12-21,23-26 and 28-30 as anticipated under 35 U.S.C. §102(a), or alternatively as obvious under 35 U.S.C. §103(a) in view of Davis et al (USPN 5,378,348).

Claim Rejections-35 U.S.C. §102(a)

Davis et al. is directed to a method for producing a middle distillate fuel from a waxy Fischer-Tropsch feed by separating the waxy feed into heavier boiling above about 500°F and a lighter fraction boiling below about 500°F. The process then seeks to catalytically hydroisomerize the heavy fraction in order to improve the cold flow properties of the invention. Further, Davis hydrotreats the lighter fraction in order to remove all hetero atom compounds therefrom.

In the present invention, applicants separate the waxy feed into a heavier and lighter fraction, but that is where the similarities with Davis end. The feed is fractioned at the 700°F boiling point, not the 500°F boiling point, as in Davis. More significantly, Davis hydroisomerizes the heavy fraction in order to produce the branching which helps achieve the freeze point limitation that is the object of Davis. There is no hydroisomerization of the heavy feed in the present invention. Furthermore, it was not the object of the present invention to achieve a distillate with a low freeze point, as in Davis.

Additionally, Davis specifically *removes* oxygenates from the lighter fraction altogether. This is in direct contrast with the present invention as oxygenates, specifically C12-C24 primary alcohols are required in order to provide the lubricity feature described therein. Therefore, it is clear that Davis does not teach each element of the claims of the present

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invention, and thus applicant respectfully requests that the 35 U.S.C. §102(b) rejection be withdrawn.

Claim Rejections-35 U.S.C. §103(a)

The Examiner also rejected the claims of the present invention, in the alternative, as obvious in view of Davis et al. Based on the arguments presented above, it is clear that the problem achieved by Davis is significantly different than that achieved by the present invention. Specifically, Davis was interested in distillates with certain cold flow properties, which are achieved by hydroisomerization. The present invention, on the other hand, is directed at clean distillates with high cetane and high lubricity, and it is the small amounts of oxygenates that are retained which provide this increased lubricity. And it is these oxygenates that Davis explicitly teaches to remove. This is an explicit teaching away from the present invention.

Moreover, Davis teaches that his invention has lower cetane numbers than corresponding normal paraffins (col. 1, lines 60-62). The present invention seeks to maximize cetane number, and includes this as a limitation in the claim as being at least 60. This is another clear example of a teaching away of the present invention. Therefore, based on the arguments presented above, the applicants respectfully request that the §103(a) rejection be withdrawn.

Applicants believe that the claims are patentable and that this application is in condition for allowance, and such favorable action is respectfully requested. If any questions or issues remain, the resolution of which the Examiner feels would be advanced by a conference, she is invited to contact Applicants' attorney at the telephone number noted below.

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Respectfully submitted,

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☒ Pursuant to 37 CFR 1.34(a)

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